

[54] FLUID PUMP

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[57] **ABSTRACT**

A medical infusion pump for use in conjunction with a valved elastomeric pumping chamber. The pump comprises a pair of clamp elements between which the pumping chamber is located and one of the clamp elements is movable relative to the other to effect cyclic compression and expansion of the pumping chamber. The movable clamp element is constituted by an extension of a solenoid armature and such clamp element moves in a direction away from the fixed clamp element, to permit expansion of the pumping chamber, when the solenoid is energized. A compression spring acts against the solenoid armature and serves to bias the movable clamp element in a closing direction when the solenoid is de-energized, whereby a compressive force is applied to the pumping chamber. An electric motor is coupled to the spring by way of a motion translating mechanism and, when energized, the motor functions to change the effective length of the spring and, hence, the biasing force exerted on the movable clamp element.

11 Claims, 12 Drawing Figures

